CONNELL SOIL FARM LLC

Connell Soil Farm L.L.C. | Bellingham, Washington

RFP 76B-2023: City of Bellingham Solids Handling Pilot Program

CSF Response – November 1, 2023

Submitted to:

City of Bellingham
Attn: Purchasing Office, RFP # 76B-2023
2221 Pacific Street
Bellingham, Washington 98229

CONNELL SOIL FARM LLC

Cover Letter [RFP Section 8.a]

November 1, 2023

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City of Bellingham
Purchasing Office
2221 Pacific Street
Bellingham, WA 98229

Subject: Request for SOLIDS HANDLING PILOT PROGRAM Proposals
RFP 76B-2023

The enclosed response is submitted in response to the above-referenced Request for Proposal.

Through submission of this proposal, we agree to all of the terms and conditions of the Request for Proposal.

We have carefully read and examined the Request for Proposal and have conducted such other investigations as were prudent and reasonable in preparing the proposal.

We agree to be bound by the statements and representations made in this proposal and to any agreement resulting from the proposal.

Furthermore, we understand and accept our obligation to obtain and maintain a City of Bellingham business registration.

Yours truly,

Brent Cowden
Manager Connell Soil Farm L.L.C.

11/1/23
Date:

CONNELL SOIL FARM LLC

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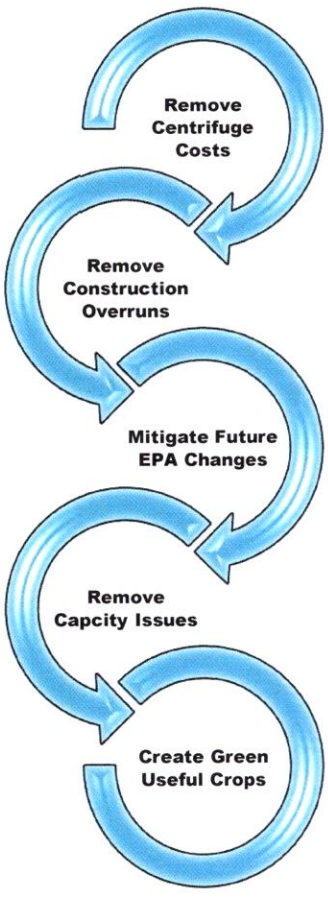
The Proposal Highlights [RFP Section 8.c]

Connell Soil Farm ("CSF") will demonstrate, within three years, our potential to accept, transfer, recycle, and beneficially reuse ALL of Post Point's sewage solids through modern lagooning with on-site beneficial use technology in Eastern Washington. Lined lagoons will safely transform the biosolids into in-place, ready to use, fertile biosolids to grow various nonedible but useful fiber crops; with no hazardous land exposure or application.



Significantly, CSF will exceed the objectives of RFP 76B-2023 of "solids handling technology that can produce a beneficial use end product" by not only producing a beneficial biosolids, but CSF will use the biosolids on our 1,160-acre site to grow grasses for fiber in toilet tissues.

Furthermore, CSF's solution of safely handling the solids in lagoons for in-place agriculture will shield the City from liability risks inherent in land application solutions.

We can protect the City from cost overruns, capacity issues, excess energy spent, and future EPA rule changes.

At the same time, it will scale as Bellingham grows, Freeing up existing infrastructure "in the ground" at Post Point allows for immediate, fast-tracked nutrient diversion compliance efforts without expensive ($400M) and slow-moving construction. Long hauling to lagoons improves the City's GHG emissions.

At the end of the three-year pilot, the City's sewage solid handling problems could be resolved by CSF.

A preview of CSF's responses to the City's seven RFP requirements (RFP document page 6):

- **Proposed Processing Technology**: CSF will use natural lagooning with in-situ beneficial use. Washington State Department of Ecology states: "*This option [Lagoons] often provides the most cost-efficient means of handling the materials, and it can have several environmental benefits as well.*" [1]

[1] https://apps.ecology.wa.gov/publications/SummaryPages/9837.html The "Criteria for Sewage Works Design (Orange Book)" from the State of Washington Department of Ecology. Page S-38 (page 624 in the PDF.

CSF will load the City sewage solid wastes into either rail or highway-certified tankers to transport to our Eastern Washington site for long-term processing, through natural reduction by way of evaporation, passive solar energy, and time—a perfect low-cost, natural solution!

- **Ability To Pilot at Post Point:** Once the CSF soil farm is ready to receive sewage waste, it will be as simple as the City transferring the City of Bellingham sewage waste into our transportation containers. Other than the loading, everything is managed by CSF. Zero expensive build-out at Post Point is needed beyond access to loading docks.

  Note that our pilot can run simultaneously with any other pilots should the City select multiple pilot projects as referenced on page 6, section 4.2. We can coexist.

- **End Products are Renewable Products:** Over time, the sewage-sludge waste will be environmentally stabilized inside lined "cells" where we harness the high nutrient levels to grow in situ and produce various crops directly inside the same lined lagoons' confines.

  Our agricultural production cells will be seeded with proven biomass crops that are expected to grow at accelerated rates due to the increased level of biosolid nutrients derived from the sludges. Such crops could be native or hybrid grasses that produce fiber multiple times faster than trees, which could be used in lumber or our current plan of toilet paper.

  As nutrients are consumed, and biosolids are depleted and exhausted, we will use those soils to blend with newer nutrient-rich sludges to establish additional agricultural production cells: A sustainable circle of evergreen materials from sewage matter.

- **Connectivity to Post Point Requirements:** All that is required is a simple method to transfer the City's sludge to our rolling transport containers, or rail cars.

- **Land Area and Personnel Required during Pilot:** Parking space for the long-haul trailers. The logistics of managing the loading with City personnel or CSF can be negotiated.

- **Time Required to Pilot:** Once the lagoon is permitted and construction is finished, we can commence. The Pilot can run as short or as long as the City desires. And once successful, we can continue with a permanent long-term contract with no interruption in service. Furthermore, CSF will be able to process an average of 7,000 GPD of the City's "Thickened Activated Waste Sludges" on "day-one" of operations. We can ramp up quickly after the pilot.

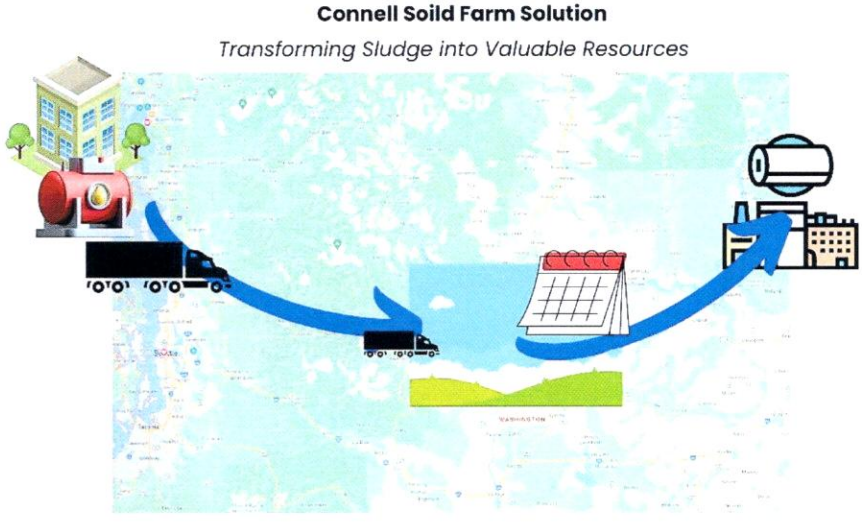
- **Financial Cost to City to Test:** There are no upfront costs to the City other than providing the loading facilities. The City will only pay a set rate per ton. CSF has assumed all the backend infrastructure costs of 1) facilities, 2) transportation, 3) insurance, 4) real estate, 5) engineering, permitting, building, 6) Ecology's Financial Assurance Funding, and 7) "farming" the end result agriculture products. CSF will own all responsibility for handling or disposing of all non-hazardous TWAS properly.

Team Structure and Business Approach [RFP Section 7.1]

Business Approach:

CSF will transport all sewage solids to an offsite location for processing. For the City, there is no major equipment or infrastructure needed at Post Point, or at any City facilities.

- **TRANSPORT**: CSF intends to merge current transportation trends in solid waste management and apply successful long-haul strategies to maximize sewage solids management and establish a safe, cost-effective delivery to our destination processing.
- **DESTINATION PROCESSING**: CSF offers a "cradle-to-grave" or "turnkey" sewage solid handling service by way of modern lagooning at our 1,160-acre site.
- **FINANCE**: CSF will bill the City at a simple per-ton fee. The City will not need to issue bonds or raise capital. It is pay-as-you-go, with negotiated minimum tonnage.
- **ENVIRONMENT IMPACT**: GHG, carbon footprint, and nutrient diversion all improve with offsite processing. (More details are found on page 13, *Additional Information on the Impact of Cost, Environment, and Operations*) CSF wants to use finished biosolids at our site to protect the environment by transforming the waste sludges into beneficial, non-food crops. Our plan to grow a robust pulp product has multiple benefits, including the reduction of forest harvesting. Furthermore, 25.5B BTUs will be saved per year with sewage incinerators turned off.



- **LONG TERM**: CSF has mapped out a 75-year plan to use solar power as the primary process at our facility, which is designed to last 400 years.

Team Structure:

Headed by Brent Cowden in partnership with Larry McCarter, CSF has assembled a collection of industry experts to create a unique opportunity for the City of Bellingham to join CSF's goals of managing the region's TWAS management problems.

The individual elements are:

Management: Connell Soil Farm is a locally owned LLC based in Bellingham, WA. Connell Soil Farm owners/managers are the two most experienced high-volume waste and material handlers in Whatcom County. Both have proven decade-long track records in the County.

Transportation: CSF has subcontracted all Transportation-related duties to Cowden Brothers L.L.C.

Engineering, Permitting, Commissioning: Akana is a large Pacific Northwest engineering firm with broad experience related to landfill and lagoon design, construction, and permitting. The company has been retained by CSF: (https://akana.us/)

Destination Site Staff: CSF will employ onsite managers and employees to manage the site's activities and monitor the scale house and the lagoons.

Accounting: All final accounting, invoicing, and record keeping will be done in Connell Soil Farm's Bellingham offices.

Dispatch will be handled in Bellingham by local staff.

City of Bellingham: CSF will negotiate the Post Point logistics of loading the tankers. There are pros and cons to letting City staff or CSF manage the loading. These operational steps will be simple to solve during the pilot project. CSF anticipates only having drivers onsite at Post Point.

Qualifications:

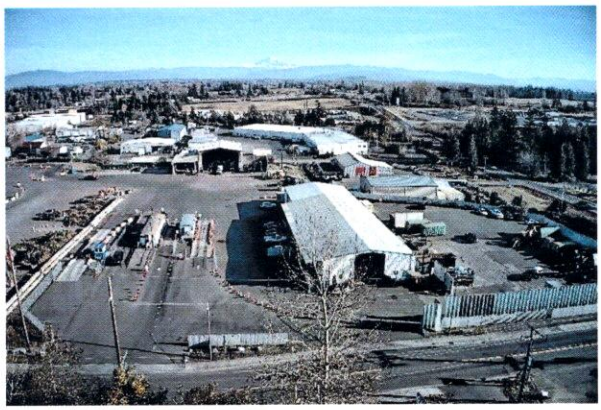
The following are the detailed backgrounds of the CSF team. References for each team member is found in References **[RFP Section 7.4]** Page 17.

Management Team-Operational Excellence:

- **Brent Cowden**, Manager.
  Extensive experience in transportation management, facility management, plus quarry and lagoon management. Owner of Cowden Trucking. Brent has been managing Whatcom County's dominant heavy hauler service company for Whatcom County for many years. Brent has a long list of projects

and accomplishments ranging from operating rock crushing operations, quarry operations, hauling of all materials including solid waste for Waste Management and Republic Services throughout the State.

- **Larry McCarter**, Partner.
  Twenty-five years of waste disposal experience including permitting, handling, and "Intermediate Solid Waste Facility" management. He is the owner and developer of Recycling and Disposal Services Inc. which is a privately owned solid waste handling facility that has long-hauled and landfilled over two million tons of municipal solid waste without one violation of any of its permits for over 25 years. The landfill he uses is further from Bellingham than CSF.

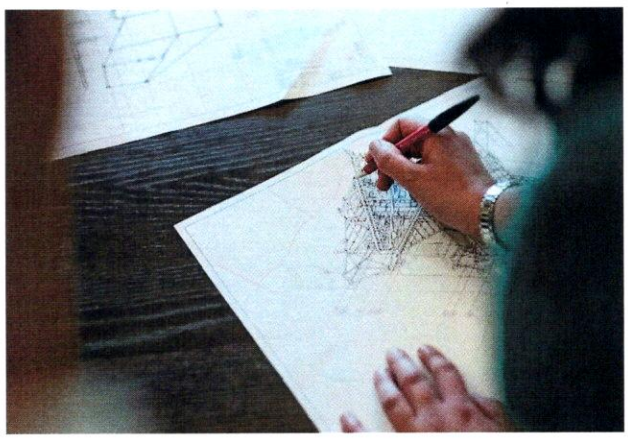


Technical Team-Engineering Excellence

David K Luneke, PE (Professional Engineer) and various technical staff of **Akana** (https://akana.us/).

Mr. Luneke is an experienced project manager with over 35 years of experience in engineering design, procurement, construction, and operation of industrial and residential projects. Mr. Luneke started his career as a hydraulic/hydrologic engineer and has extensive knowledge and design experience in engineering Subtitle D Landfills and hazardous waste remediation facilities design and management.

Akana is a Native American-owned professional services firm. Akana is a multi-discipline firm committed to celebrating culture, satisfied clients, empowered staff, and enriched communities. They provide multidisciplinary architecture and engineering design services our planning services include master planning, tribal transportation planning, hazard mitigation planning, grant writing, asset management, and environmental services. Their construction management group specializes in quality management and large infrastructure projects including light rail, bridge replacement, airports, heavy highway, and water/wastewater.



Akana expanded operations to Eastern Washington. **Stuart Fricke, PMP** has joined Akana to take on the role of regional manager at the Pasco, Washington office. He is aided by **Michael Black, PE**, and **Ron Schalla, RG, CEG, LHG**, all of whom have worked with Akana over the years. .

Design is critical, and here is a sampling of Akana's past projects in Washington and Oregon:

Landfill and Leachate Pond Design, Confederated Tribes of the Warm Springs Indians, Warm Springs, Oregon. Akana evaluated the Tribe's 30+ year-old landfill and designed a vertical expansion that will provide an additional 100 years of service life. The design included the design of a synthetic composite barrier/cap/liner with a leachate collection system, between the existing waste and the future waste capacity and over five acres of double-lined leachate evaporation ponds. The Tribe is currently seeking funding through the Indian Health Service.

Schmeer Pump Station Upgrade, City of Portland Bureau of Environmental Services, Portland, Oregon. This North Portland pump station, originally commissioned in 1978, is a priority for an upgrade project in the City's pump station improvement program to improve reliability and to bring the facility into conformance with current codes. Akana (dba Cascade Design Services) provided structural/seismic review, design, and construction services, including an evaluation of structural upgrade options, seismic structural review of the pump station and the adjacent engine/generator building, and review and identification of structural issues associated with ADA restroom options.

Wastewater Treatment Plant, Cowlitz Indian Tribal Housing, Chehalis, Washington. Akana was part of the Cherokee Construction Services design/build team for design of a 15,000 gallon per day biological wastewater treatment system (Membrane Bio-Reactor [MBR]) capable of producing high quality effluent meeting Washington Department of Ecology reuse standards. The firm was responsible for the design of four pump stations, approximately 4,000 lineal feet of force main, and two additional injection wells for discharge into an existing injection well field. The project serves the Cowlitz Indian Tribal Housing, including offices, senior apartments, and single-family housing for approximately 50 occupants and 30 staff. In addition, the project serves the South Lewis County Airport, including offices and planned economic development.

Kamilche Wastewater Reclamation Facilities, Shelton, Washington; Squaxin Island Indian Tribe. The firm collaborated with Cosmopolitan Engineers to design new wastewater treatment and disposal facilities to serve the Tribe's headquarters site as well as their casino/resort development located along U.S. Highway 101. Wastewater will be conveyed from the headquarters site to the casino/resort area for treatment. Treatment will utilize Membrane Bio-Reactors, a new treatment technology that has proven to be very effective. Treated effluent is reused through irrigation of the Tribe's proposed new golf course as well as discharge to a local receiving stream.

Columbia Blvd. Wastewater Treatment Plant CEPT Project, Brown & Caldwell for City of Portland Bureau of Environmental Services, Portland, Oregon. Cascade Design is part of the team responsible for the design of facilities to add chemical coagulants and flocculants to wet weather flow with the objective of enhancing the settling of wastewater solids in the Columbia Blvd. West Weather Treatment Facility wet weather primary clarifiers. The wet weather treatment facilities treat only wet weather flows that are in excess of the secondary treatment capacity at the Columbia Blvd. Wastewater Treatment Plant.

Coordination And Communications:

The City and CSF will establish easy and open lines of communication to coordinate efficient and timely loading at Post Point.

The most critical bit of coordination relies on communicating directly with the CSF Transportation Dispatcher. We will establish continuous communication access to our dispatcher. We will work with City staff to coordinate the delivery or pick-ups as needed. There is already an existing dispatch center.

Our team currently is also engaged in dispatching and hauling multiple container loads of waste materials daily throughout the state. The number of containers always changes, and so daily communication will be required.

The City will need to be available to ensure loading is done timely to keep everything coordinated and moving. These logistics would be worked out during the pilot project.

Other Logistics:

The City does not need to "do" anything except deliver their solids into our shipping containers. The City will need to provide a loading dock or area and the requisite loading equipment. The density of shipped material will need to be consistent so as to flow normally, into and out of our containers (6% solids or less for Pilot).

An additional benefit is that there would be no post-pilot project cleanup. Should CSF win the contract, then the process would continue.

Should CSF not win the contract, then the City would just stop pumping waste into our containers. There would be no significant shut down costs.

Additional actions being performed by CSF:

- All Solids Processing will be done at the CSF site in eastern Washington.
- The soil farm property has been purchased and is owned by CSF.

- Lagoon Permitting has started.
- Geological and Hydrological and Wildlife Studies will begin soon as well as site Surveying.
- Lagoon construction is projected to commence in early spring 2024.
- CSF will promptly apply to Burlington Northern to realign and use the existing rail spur for shipping waste by rail.
- All tractors for trucking and or train tankers will be acquired and ready for shipment as lagoon construction proceeds.
- Certified truck scales will be installed at the Soils Farm, and all weights will be in tons.
- All road equipment will be DOT-*certified.*

IMPORTANT: All of these activities have begun and are not dependent on being awarded this Pilot Project. CSF has invested over $2 million dollars to date. CSF will build and operate the planned soil farm.

The logistics of farming within the lagoons are to being designed. We expect to work with Washington State University to utilize the biosolid products most advantageously. Potential beneficial crops are discussed below (*Final Product: Tissue Paper*, page 14).

Contingency disposal arrangements with a nearby Subtitle "D" landfill have been made in the event the sludge delivered by the City contains contaminants that make the product unsuitable for any acceptable use or processing. A closure plan is a part of the permitting process and will be approved and in place prior to any delivery of sewages to the CSF facility.

Contingency intermodal tank storage capacity will be provided as directed by City staff and parked at either Post Point or at the RDS North site in Ferndale.

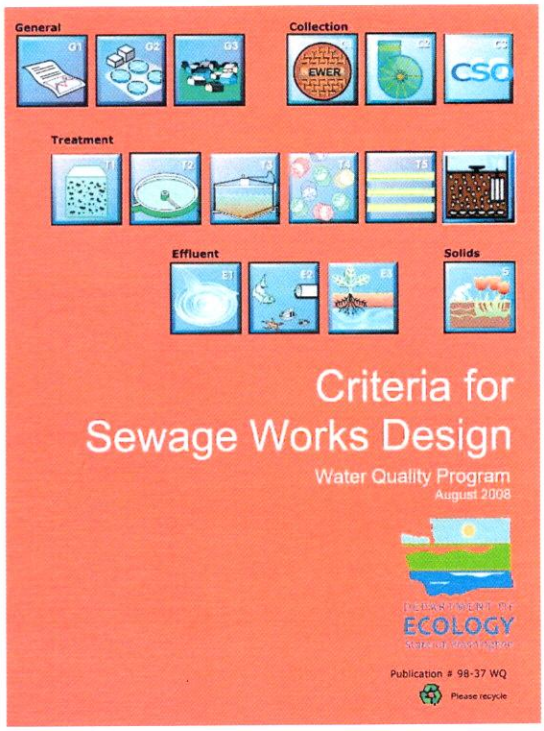
For contingency planning and logistics, Waste Management has a new Landfill near Washtucna, 25 miles from the Soil Farm site, which will make disposal of rejected material cost-effective. *However*, landfilling is not our primary method; but it will be available for rejected material.

Proposed Technical Approach [RFP Section 7.2]

Processing Technology

Processing technology used at Connell Soil Farm will conform to the State of Washington's Criteria of Sewage Management.

We will utilize the process and associated technology of producing Class "A" Biosolids (or the equivalent) by lagooning with in-situ beneficial use.



> Excerpt from *Washington Criteria for Sewage Management: Lagoons "Option #3: Management On-site for Beneficial Use:*
>
> *"A facility may manage the solids for beneficial use within the lagoon. When selecting this option, the facility must comply with the state biosolids rule and the General Permit for Biosolids Management.* ***This option often provides the most cost-efficient means of handling the materials, and it can have several environmental benefits as well.****"* [Bolding format added by CSF]
>
> *Chapter: Residual Solids Management*
>
> *Page S-38*[2] *Item 3.a*

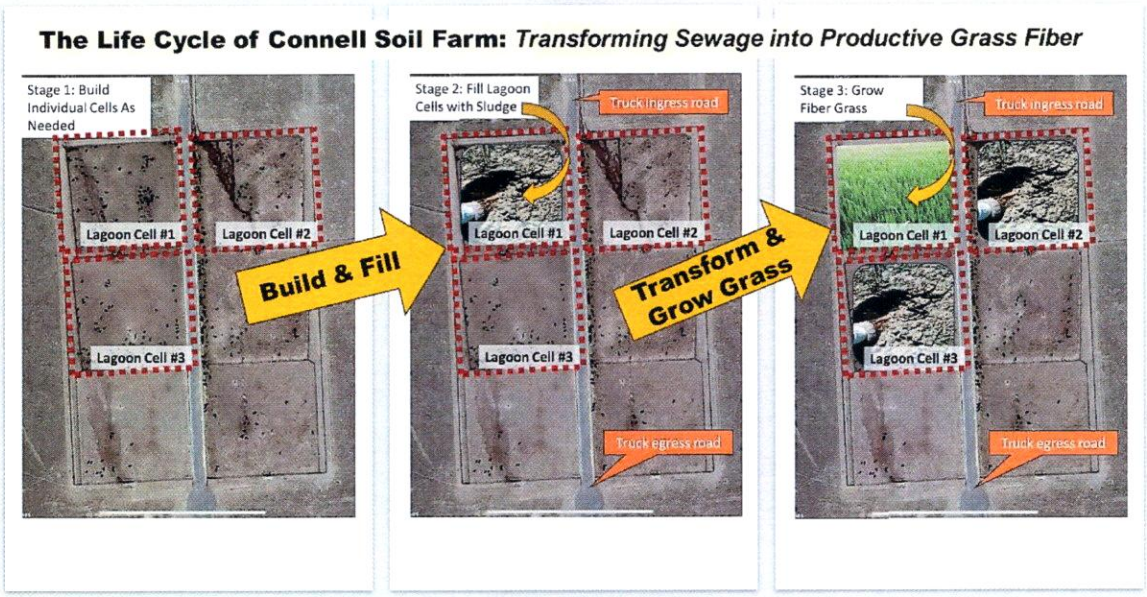
Sewage sludges have long been established as a good feedstock for soil amendments due to the high level of organic nutrients. However, recent improvements in testing equipment and increased data have shown a plethora of harmful chemicals may be present in all biosolids. A lack of sufficient environmental controls has resulted in the voluntary limiting of markets for available acreage to be used for the land application of sewage sludge products.

CSF is **not** using land application of sewage sludge.

We are proposing to develop a soil farm where sludge is put into environmentally isolated cells. These independent cells will harness the high nutrient levels to grow in situ and produce biomass crops directly inside the confines of the lined lagoons. Acceptable pathogen and vector reduction will be achieved and maintained as directed and allowed by CSF's biosolids and MSW handling permits.

[2] https://apps.ecology.wa.gov/publications/SummaryPages/9837.html The "Criteria for Sewage Works Design (Orange Book)" from the State of Washington Department of Ecology. Page S-38 (page 624 in the PDF.

Our agricultural production cells will be seeded with proven biomass crops that are expected to grow at accelerated rates due to the increased level of biosolid nutrients derived from the sludges. (See section *Final Product: Tissue Paper*, page 1414.) Further enhanced by the advantageous farming environment of Eastern Washington.



As nutrients and pathogens are consumed, dried out, depleted, and exhausted, the resultant biosolids will be used as resource soils to blend with newer nutrient-rich sludges to establish additional agricultural production cells. This is part of the reason for naming our enterprise a "soil farm" because, in addition to traditional agricultural fiber crops, we will be developing new and productive agricultural resource soils for growing crops onsite, within the protective area of the lagoon's footprint.

This proposal allows CSF to implement our new, all-encompassing, innovative triple-line, one-stop, turn-key permanent sewage-solids handling plan.

We propose to accept any amount of sludges at <6% (pilot only) solid density and to process it into safe usable biosolids that will be used to produce crops such as grass for its fiber or, should laws change and sewage solids are deemed hazardous due to contaminants such as micro-plastics, PFAS or pharmaceuticals present, we have a disposal contract with a nearby Subtitle D landfill that will be ready to accept any non-useful, non-hazardous waste product, if any.

Design and operational procedures for the lagoon site will be standardized, monitored, and coordinated with the local health department and with the State Department of Ecology to ensure design, operation, financial assurance fund and closure plans are in place and approved.

Continuous testing and employment of additional processes to significantly reduce pathogens (PSRP's) and improve the product will be employed as necessary to achieve a Class A biosolid

product. PSRP's may include lime stabilization, air drying, heat treatment or pasteurization en route utilizing exhaust heat from transport engines. Time and temperature calculations and testing data will be collected, monitored and procedures modified during the pilot to ensure pathogen reduction and vectors are controlled.

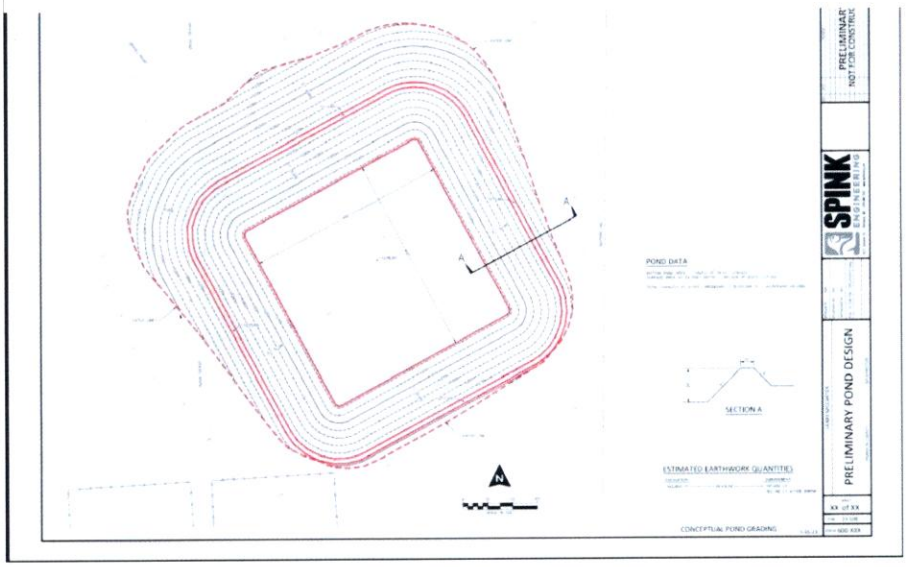
Once the lagooning and any additional PSRP's are completed, the growing of a fiber-rich crop can commence. Mechanically harvested fiber crops could be delivered to paper mills. There is a paper/tissue mill in Idaho where we anticipate delivering the finished product.

CSF is permitting/designing the lagoons to meet the standards associated with special-use landfills and surface disposal sites, specifically for "in-situ-beneficial use" of sewage sludges. CSF will use discreet cells as secure, lined, and monitored lagoons. These lagoons will be designed and constructed to have state-of-the-art environmental protective layers, liners, and monitoring equipment to ensure safe sewage handling.

All permits from all agencies will be in place at all times. The handling and processing parameters will be clearly defined prior to receipt of any TWAS.

CSF will be aligned and assist the State's diversion and reuse goals of HB 1799, which requires reducing the amount of organic waste sent to landfills by incorporating tools to utilize otherwise contaminated feedstock for beneficial use.

Figure 1: Preliminary Design for CSF



The permit process requires submitting a completed application to the Health Department, including:

- Demonstrations that the facility meets the location standards of WAC 173-350-400(3)
- Documentation that owners of property located within 1,000 feet of the landfill boundary have been notified that the proposed facility may impact their ability to construct water supply wells, in accordance with chapter 173-160 WAC, Minimum standards for construction and maintenance of wells.
- Engineering reports/plans and specifications that address the design standards of WAC 173-350-400(4) and (5)

- A plan of operation meeting the requirements of WAC 173-350-400(6) Hydrogeologic reports and plans that address the requirements of WAC 173-350-400(7)
- A closure plan meeting the requirements of WAC 173-350-400(8)
- A post-closure plan meeting the requirements of WAC 173-350-400(11)
- Documentation as needed to meet the financial assurance requirements of WAC 173-350-400(9)
- Plan for meeting landfill operator certification per chapter 173-300 WAC, Certification of operators of solid waste incinerator and landfill facilities

Additionally, CSF will obtain all permits and maintain all requirements related to biosolids handling found in WAC Chapter 173-308 "Biosolid Management".

Additional Information on the Impact of Cost, Environment, and Operations

Addressing the Environmental footprint of Trucking.

Trucking will be phased out if not electrified to all rail transportation. All solid waste is currently being long-hauled. Sewage is a small fraction of the solid waste stream. Utilizing the infrastructure of non-sewage solid waste just makes sense. Liquid waste can be shipped more economically and efficiently than dry waste. Shutting down incinerators saves 24,000,000 cubic feet of natural gas (GHG). As a society we already export our garbage to promote a local environmental benefit and sewage is classified as more toxic; therefore the safe export of this waste will provide additional local environmental security and benefit.

Cost of Constructing and Operating

CSF will be operating and constructing the facility without City money. The City will not have to construct and operate Digesters that did not reduce nitrogen, while producing sludge that needed dewatering before it could be hauled to Land Application sites in Eastern Washing-ton. The quality of municipal sewage discharges can immediately improve.

Cost of Transportation including GHG

The environmental impacts of trucking or railing all of the solids to an offsite lagoon will more than offset, and in fact, drastically reduce Bellingham's carbon footprint; Hauling 6% solids allows the ending of the City's thickening and incineration operations, which is by far the largest consumer of power and natural gas at the plant. All power consumption from the gravity belt through the incinerator I.D. fans would no longer be needed. This, in addition to ZERO recycled water back to the plant from the solids handling portion of the plant, represents potentially huge nutrient diversion infrastructural savings. The many benefits of offsite processing of solids will by far offset the environmental cost of the relatively short-haul to eastern Washington (compared to Bellingham's garbage long-haul to landfills).

Methane and CO_2 Capture if needed

A gas collection system will be installed if required. CSF is committed to not polluting the air, ground, and water. If emissions warrant a gas collection system at any phase of the process, CSF will comply with those requirements.

Redundancy

CSF will have on hand enough mobile storage capacity to buffer the worst weather or road or rail delays. Transportation with Intermodal tanks permits redundancy offering a variety of modes of transportation.

Final Product: Tissue Paper

This project envisions producing toilet tissue paper made from fiber crops grown in soil (biosolids) derived from Bellingham's thickened sludge (TWAS). The specific crops and products will vary but we currently plan to grow directly in the lagoons, native grasses that produce fiber multiple times faster than trees.

Tissue paper is the perfect "end use" product for the proposed sewage solids reuse program. There is a nearby manufacturing plant, in Lewiston Idaho, that makes tissue paper. Sewage to soils to grass fiber derived toilet paper keeps the cycle of disposed products in a tight, environmentally secure loop.

Other potential final products for crops of fiber include construction materials, filter media, biochar, biomass energy, roofing products, and all paper products.

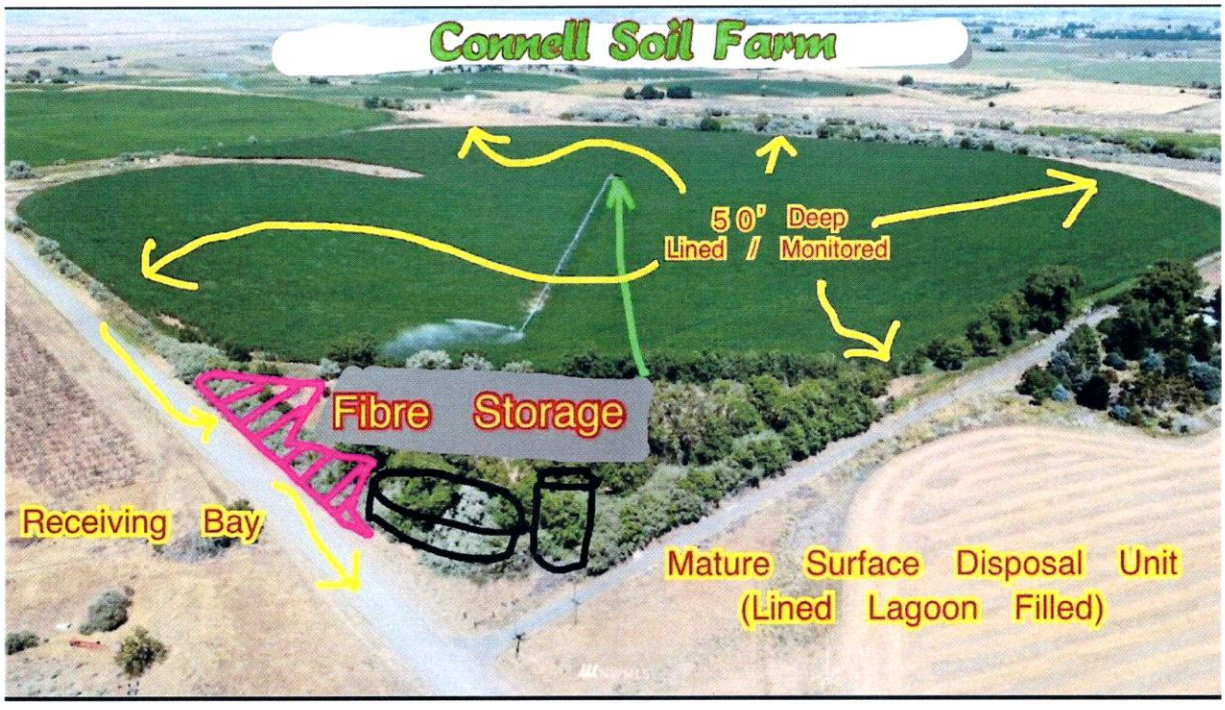


Figure 2A Conceptual View

Final product will **NOT** be land applied unless required by law**.** We use lined lagoons to not generate pollution or liability. Lined Lagoons avoid any inadvertent exposure, spills, or spreading of pollution caused by the known and unknown contaminants in sewage or biosolids.

Other Benefits Derived by The Project

- Post Point's De-nitrification can be improved without solids handling onsite.
- Diverted Solids Produces High-Dollar-Value Capacity for Post Point Facility: Offsite solid processing creates useful space and opportunities for capacity expansion on City property.
- Lagooning's energy efficiency offsets more than all transportation energy cost impacts.
- Accepting this proposal will help the City secure long-term access to a newly permitted and functioning Sewage Solid Transportation Infrastructure and Processing System with ample capacity, safety, and governmental oversight.
- The City will have a proven, workable Sewage Contingency Management Plan that includes safe handling and disposal provisions if sewage becomes designated as special, dangerous, or hazardous waste. **Accepting this proposal will make The City better prepared if unforeseen catastrophic failures occur at the Post Point Facility**.
- Lined Lagoons offer protection from regulatory changes: recently the Environmental Protection Agency has been considering changing the rules related to land application of biosolids due to the presence of PFAS, PFOS, micro-plastics, and pharmaceuticals in sludges. Because of these regulatory and liability risks, CFS facility will be permitted to accept and safely manage nearly all sewage regardless of pollution levels ("surface disposal units"). Sewage may soon be designated differently, and CSF will be ready for more restrictive changes in the law.

The entire project's focus is on developing a certifiable Class "A" biosolids product that will be used onsite to safely produce a needed and useful product derived from sewage sludges.

Proposed Fees/Costs [RFP Section 7.3]

Our initial Fee will be based on the actual number of tons received by CSF during the Pilot phase. For the pilot period, CSF will charge the City $525 per ton "FOB" Bellingham, for sewage sludges at less than 6% solids. Thicker sludges will be accepted once off-loading is established.

Standard monthly invoicing with payment due 30 days after invoicing.

We anticipate long-term fees will be significantly less than our proposed RFP rate as a long-term contract will greatly increase the CSF efficiencies and thus reduce long-term costs and fees. We can negotiate rates depending on the city's needs or ability to thicken the waste.

Please note when performing a cost comparison with other proposals, there will be no other costs that the City must pay and many savings will occur: Offsite Solids handling improves onsite handling capacity for Solids Nutrient reduction equipment, reduces O & M and energy costs, also shrinking amortization cost, and eliminating extra cost-budgeting for replacing end-of-life equipment; these adjustments must be factored into the RFP comparison equation to understand the net costs to the City.

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References [RFP Section 7.4]

CSF is combining a collection of past successful projects and business enterprises to create a new regional solution for transforming waste sewage into Class A Biosolids.

The skillsets and experiences to accomplish our project are:

1) Experience transporting of waste material throughout the State with an outstanding track record in reliability and safety.
2) Experience managing Solid Waste Handling Facilities with large volumes of waste focusing on logistics, worker safety, environment safety and effectiveness. Plus similar management of Gravel Pits and Rock Quarries.
3) Experience and results designing large infrastructure projects focusing on environmental permitting and design, site investigation and wastewater projects.

Here are references in each of those specialties:

#1: Cargo Transport Experience Reference; executed under Cowden Brothers Trucking

CONTACT: Rob Jones, Waste Management
Email: rjones@wm.com

Experience with CSF Team: Cowden Brothers Trucking ("CBT") is a heavy haul freight service company primarily trucking refuse throughout the Lower mainland British Columbia and the state of Washington. CBT now consists of over 40 trucks and nearly 200 container chassis for transporting solid waste throughout the state and BC. Historically, CBT average 3.5-4 million miles a year of safe transport of solid waste. The above-listed contact is our largest customer receiving transported solid waste material.

#2 Waste Handling and Management plus heavy hauling Waste, Gravel Pits/Rock Quarry Reference; performed under Cowden, Inc and Recycling and Disposal Services

CONTACT: Calvin DenHartog
Nooksack Valley Disposal and Recycling
General Manager
250 Birch Bay Road
Lynden, WA 98264
Phone # (360) 354-3400
Email: calvin_nvd@msn.com

Experience with CSF Team: Nooksack Valley Disposal uses Larry McCarter's company to handle all the management of their solid waste disposal from RDS' transfer station. Mr.

DenHartog can discuss the effectiveness, reliability and professional relationship between the two organizations for the past decades.

Contact: Jaime White, Whatcom Land Use Consulting
Email: whatcomconsult@comcast.net
Ranch Quarry, Sumas Washington

Experience with CSF Team: Brent Cowden, President of Cowden Inc, is actively working with Whatcom County planning department and the Department of Natural Resources on permitting a 400-acre rock quarry in Sumas. The proposed quarry will service the greater Whatcom County construction market with vital resources for decades to come. The proposed quarry will yield in excess of 20,000,000 tons of hard rock materials, create over $300 million dollars in revenue to the overall economy and over $26million in tax revenue for Whatcom County, in addition to supplementing the construction industry with hundreds if not thousands of jobs for decades to come.

Contact: Derek Hergenhein,
AIPNW Inc (new owner of Cowden Gravel & Ready Mix)
Email: derek.hergenhein@lafargeholcim.com

Experience with CSF Team: Brent Cowden owned and managed Cowden Gravel and Ready Mix for over 20 years. Managed 13 active gravel pits and rock quarries in addition to 80 heavy-duty trucks and heavy equipment. Worked closely with government agencies such as the DOE, DNR, Health Department, Whatcom County Planning Department, NW Clean Air Agency, and MSHA. Managed over 150 employees and $35 million in annual revenue.

#3 Environmental Project Design, Management and Construction as performed under Akana

Akana engineering has a multitude of solid waste and sewage projects in the Pacific Northwest, which are listed on page 5. Below is a reference from one of those projects:

Contact: Chico Holliday
Public Works Manager for the Confederated Tribes of the Warm Spring Indians
Email: chico.holliday@wstribes.org
Work Phone: 541-615-0962
2251 Rehab Street
P.O. Box 116

Warm Springs, Oregon 97761

Project: Landfill and Leachate Pond Design, Confederated Tribes of the Warm Springs Indians, Warm Springs, Oregon. Akana evaluated the Tribe's 30+ year-old landfill and designed a vertical expansion that will provide an additional 100 years of service life. The design included the design of a synthetic composite barrier/cap/liner with a leachate collection system, between the existing waste and the future waste capacity and over five acres of double-lined leachate evaporation ponds. The Tribe is currently seeking funding through the Indian Health Service and is in progress.

Contractual Arrangements [RFP Section 7.5]

We anticipate entering into a standard Service Contract based on tons shipped during the pilot contract's term. This type of contract will clearly define the roles, responsibilities and duty to perform for each party. There are no other customers required by CSF to proceed with the construction of this project. There will be no minimum delivery quota.

Additional Information [RFP Section 7.6]

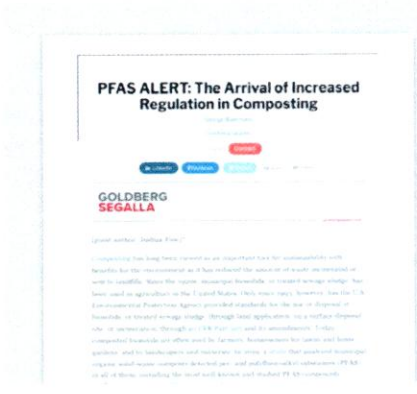
Our proposal focused on the RFP stated objectives. However, stepping back, there are many issues with the management of municipal sewage that goes beyond just the referenced biosolids.

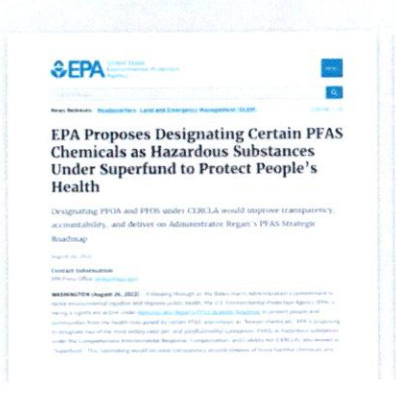
The RFP review team is well aware of the risks that have plagued other municipalities around the state and beyond. CSF believes that we can help with the bigger issues including:

1) The Biosolid Future is Uncertain

Over the past five years, the U.S. Environment Protection Agency has scrutinized the impact of land applied biosolids on human health and the environment. It has been seen that concerns of contamination have made farmers and consumers reluctant to use sewage as the source of nutrients for animal or human food crops.

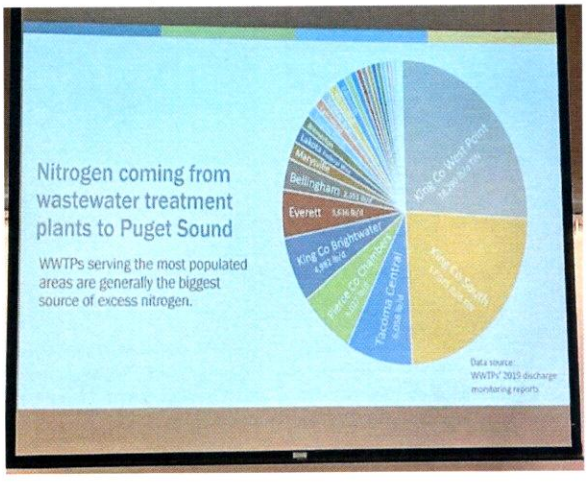
CSF will not be doing land application. All non-hazardous sewage will be kept within our lagoon cells where we will crop grass fiber products.

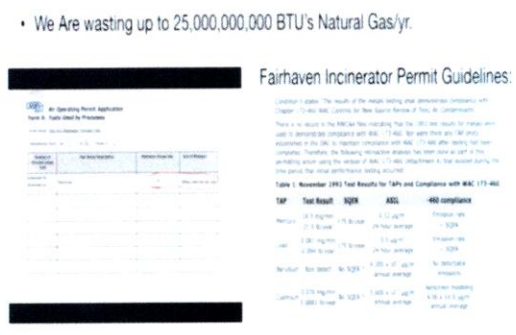




2) Bellingham's Pollution of Puget Sound Needs Relief

Ecology says Bellingham is the 7th largest polluter of the Puget Sound. Options are few but decisions must be made. Bellingham has one of the oldest sewage incinerators in the state. Good changes are long overdue. Lagoons immediately add capacity to Post Point.

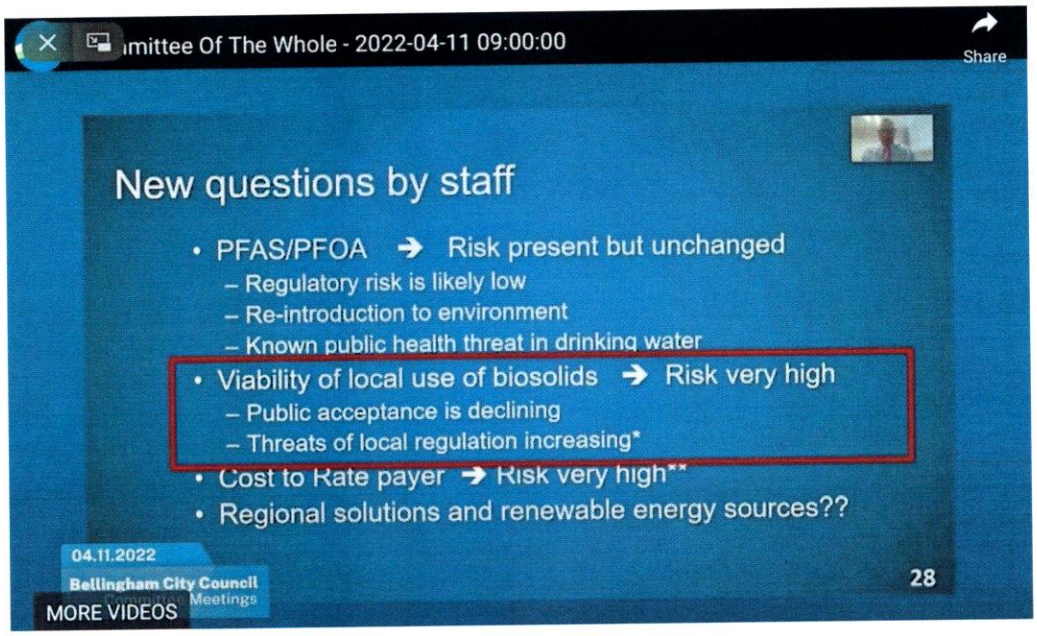




3) Bellingham City Council Rightfully Already Has Concerns of "Local Use of Biosolids"

In the April 11, 2022, City Council meeting, there was a discussion about the "Viability of Local Use of Biosolids" with a classification of RISK VERY HIGH.

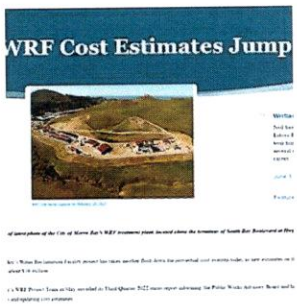
As CSF states in our technical discussion, we remove this risk through our lagooning process where NO biosolids are spread on land. All is self-contained lagoon cells, managed, monitored and turned into productive use to grow grass fiber.

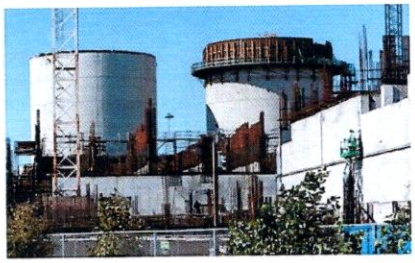


4) Cost Overrun

All construction projects are hard. Municipal sewage project appear even more subject to changes and cost overruns. City paying per ton, removes any surprises to such a major project.


Cost overruns at Back River sewer plant add up


WRF Cost Estimates Jump


wastewater plant set to bust billion-dollar budget

Deficiencies that are more serious than first thought are pushing the project to a "significant cost overrun," though officials won't reveal estimates that are still confidential.

Derrick Penner

Published Sep 22, 2023 • Last updated Sep 22, 2023 • 3 minute read

6 Comments


NEWS-TIMES

NEWS

Projected cost of sewage treatment plant increases to $142 million


Costs for upgrades to Winnipeg's sewage plants rise by $81.5M

5) Life Expectancy of Wastewater Treatment Equipment

While municipal wastewater treatment plants typically have a life expectancy of 40 to 50 years, the wastewater treatment equipment typically needs replacement every 15 to 20 years.

CSF uses the forces of nature to treat the sewage waste in our lagoon cells. There is no major equipment required.

What is a typical wastewater treatment plant life expectancy?

Matthew Johnson · January 19, 2022

Wastewater Management: Maintenance and Renovation Facts

- The 600,000 miles of sewer systems in the country have a 50-year life expectancy.
- Treatment equipment has a life expectancy of 15 to 20 years.

Municipal wastewater treatment systems across the U.S. are facing pressure to improve their performance without increasing costs. However, the average wastewater treatment plant life expectancy is 40 to 50 years, and treatment equipment typically lasts 15 to 20 years. As a result, a majority of Publicly Owned Treatment Works (POTWs) established in the early 1970s require improvement, repair or replacement to extend their lifetimes. These modifications are crucial to protect surface waters from nutrient concentrations and to implement effective stormwater management to avoid overflow.

6) Where Lagooning Thrives: High Evaporation Regions

The Evaporation Rate of Franklin County is why long-hauling wet tons 290 miles makes economic and environmental sense: Passive Solar Energy is a powerful, endless resource. Wet waste will process immensely faster at an average of 56 inches a year at CSF location versus the slower 22-29 inches of evaporation in the Bellingham area.

Western Regional Climate Center (WRCC)

WRCC: Comparative Table (dri.edu)

WASHINGTON

MONTHLY AVERAGE PAN EVAPORATION (INCHES)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
	0.00	0.00	0.00	5.43	8.35	9.84	11.90	10.77	6.86	3.00	0.00	0.00	56.22

Note: Connell is quite close to the site and the above evaporation rate of 56.22 inches per year should be applied for this project

Average annual precipitation in Connell = 8.7 inches per Climate Connell - Washington and Weather averages Connell (usclimatedata.com)